This directed readings course familiarizes students with Information, Communications, and Technology (ICT) applications for global health. Students are expected to read all assigned readings and participate actively in TechChange’s mHealth course from March 31-April 25, see http://techchange.org/online-courses/mhealth-mobile-phones-for-public-health/. The facilitator of this mHealth course will be consulted to determine the extent to which students are prepared for, and participate in, each class session.

When we speak of ICT platforms, we are referring to internet sites that pull together data in useful ways. Sometimes this involves visualization, as in placing data on a digital map (as with Ushahidi and Crowdmap). Others process and organize data (such as with medical records systems, such as OpenMRS). Others deal with discovery, as in new drugs for neglected and rare diseases (such as Fit2Cure, which is being developed by some PhD students here at Notre Dame). There are many other platforms that relate to global health (for instance, one is Magpi, which allows users to send texts and audio—such as for educational campaigns to promote hygiene).

Note that the fees for participation in TechChange’s course will be covered by our MS in Global Health program.

Learning goals
This course is designed to accomplish increased understanding and skill development in these primary areas:

1. A knowledge of some of the major concepts related to mobile and ICT applications for global health
2. A capability to identify applicable mobile and ICT applications for multiple kinds of global health challenges
3. Working familiarity with least one ICT platform, to the point of being able to explain how it functions and how it can be used

Office Hours
I welcome the opportunity to meet with students individually on Wednesdays or Fridays. If you prefer, set an appointment by sending an e-mail to Rachel Kozak at r.kozak@nd.edu or you can call her at 574-631-5617.

Academic Integrity
Students are expected to uphold the Academic Code of Honor described in the Graduate School’s Bulletin of Information (online at http://graduateschool.nd.edu/assets/29023/bulletin.1011.pdf), p. 18.

Attendance
Students are expected to attend all class sessions. If you cannot make a class, please obtain advanced approval from the instructor. The class participation grade will be lowered by one partial unit (i.e. from a B+ to a B) for each unexcused absence. More than three unexcused absences will lead to a failure of the course.

Assignments/Examinations/Percentages of Grade
1. Active participation in TechChange’s mHealth course (75%)
2. Attendance and participation at three class sessions (10%)
3. Memorandum on your selected ICT for global health platform, due April 30 or sooner (15%)

Memorandum
You are the Country Representative of Catholic Relief Services in a developing country. You and your fellow staff members are concerned about a global health problem. You believe it would be useful to use an ICT platform for addressing this problem. You feel strongly that you need to hire an ICT specialist to launch and manage this undertaking.

The Regional Director, your immediate supervisor, who is based in Geneva, requires Country Representatives to send a memorandum justifying the need to hire new personnel. In this memorandum, you need to provide:

I. The health problem you have identified
II. A brief explanation of the program you would like to initiate to address this problem
III. A description of the platform you would like to use in this program, including how it functions and how it can be helpful in addressing the problem
IV. Reasons why you need to hire an ICT specialist to launch and implement the program effectively
V. Involvement of other staff members and use of assets (such as vehicles to get to villages) that will be required in implementing this project
You should use a standard memorandum format, namely:

TO: Regional Director
FROM: [your name], Country Representative of [your country of assignment]
DATE: April 30, 2014
SUBJ.: Reason for Hiring an ICT Specialist

We have identified a health challenge that can be addressed using …

Readings
Here are some readings and videos you can use to learn more about the field of ICT applications to global health. This field is changing rapidly. Some of the hyperlinks could be different or expired, so please use a search engine to find the right link if need be.

General Background
- SMS Uprising – Mobile Activism in Africa
- Information and Communications for Development - Maximizing Mobile 2012
- Clay Shirky, “How cognitive surplus will change the world,” TEDtalk found at http://www.youtube.com/watch?v=qu7ZpWecIS8

Crisis Mapping
- Patrick Meier, Introduction to Crisis Mapping

Humanitarian Relief
- Disaster Relief 2.0: The Future of Information Sharing in Humanitarian Emergencies Article Access

Geographical Information Systems

• Videos:
  o http://www.youtube.com/watch?v=GjPc39OXr6I
  o http://www.youtube.com/watch?v=huQpn0D0eK4

**Electronic Medical Records**


• Fraser, Hamish, Paul Biondich, Deshen Moodley, Sharon Choi, Burke Mamlin, and Peter Szolovits. "Implementing electronic medical record systems in developing countries." *Informatics in Primary Care*. 1. no. 13 (2005): 83-95. [Article Access]


• Bernard, Fong, A.C.M. Fong, and C.K. Li. *Patient Records and Data Mining Applications*. Wiley, 2010, chap. 4.3. [Article Access]

**Episurveyor and Magpi**

Watch:
  • http://www.youtube.com/watch?v=5aS6R1fUCBU
  • http://www.youtube.com/watch?v=UazpKPCdO54
  • http://www.youtube.com/watch?v=hX71CFY2Cb8

**Early Warning, Early Response, and Violence Prevention**


• Watch:
  • PeaceTXT, Using Mobile Technology to Prevent Violence: http://poptech.org/peacetxt_videos
  • More on PeaceTXT: http://poptech.org/peacetxt

**Digital Activism and Social Mobilization**


**Crowdsourcing for Drug Discovery to Address Rare and Neglected Diseases**

- Read over the website of Sayansia: Scientific discovery through gaming, found at www.sayansia.com

**Journals, blogs and other electronic resources that might be helpful:**

- Information Technologies and International Development (ITID)
- Journal of Health Informatics in Developing Countries
- ICTLogy
- ICTs for Development
- Kiwanja.net
- Researching ICT4D
- Ushahidi Blog
  - http://mobileactive.org/
  - http://www.mobilemediatoolkit.org/
  - http://ict4djester.org/blog/
- HumanityRoad.org—developing a micro-tasking system for Ushahidi
- Armed Conflict Location and Event Data set (ACLED)
- Mapping the Maps project at George Washington University—Ushahidi has used this to identify best practice
- Harvard Humanitarian Initiative
- Geodata.tufts.edu
- Change at the University of Washington, http://change.washington.edu/
- Program on Liberation Technology at Stanford, http://liberationtechnology.stanford.edu/
- The Centre for Development Informatics (CDI) at the University of Manchester, http://www.cdi.manchester.ac.uk/
- mHealth Alliance, http://healthunbound.org/